

Listing of Claims

Please amend the claims as follows:

1. (Currently Amended) A method for welding a member and an end of a polygonal hollow section (PHS) to form a joint, the method comprising:

forming a connection weld connecting the end a tensile flange of the PHS and the member, the connection weld extending transversely across the tensile flange; and

forming a second weld on the surface of the tensile flange at a location that is remote from the connection weld, by applying a plurality of at least one weld bead beads transversely across a surface of to the PHS;[[],] and

forming an intermediate weld on the surface of the tensile flange between the connection weld and the second weld by applying at least one weld bead transversely to the PHS, the intermediate weld and the second weld extending continuously along the surface of the PHS from the connection weld to a the location that is remote from the connection weld such that, when a bending moment is applied to the joint, to cause a greatest longitudinal normal strain to occur occurs adjacent the remote location.

2. (Currently Amended) A method as claimed in claim 1, wherein the surface tensile flange comprises one or more flanges of the polygonal hollow section (PHS).

3. (Currently Amended) A method as claimed in claim 2, wherein the polygonal hollow section (PHS) is at least one of a rectangular hollow section (RHS) and a square hollow section (SHS), and the surface tensile flange comprises is a single flange of the PHS.

4. (Cancelled).

5. (Cancelled).

6. (Cancelled).

7. (Cancelled).

8. (Currently Amended) A method as claimed in claim 1 [[6]], wherein the intermediate weld is formed by applying a first intermediate weld bead ~~is applied~~ to the tensile flange adjacent to the ~~spaced~~ second weld bead and applying each successive intermediate weld bead ~~is applied~~ adjacent a previous intermediate weld bead so as to extend the ~~second intermediate~~ weld continuously between the ~~spaced~~ second weld ~~bead~~ and the connection weld ~~bead~~.

9. (Currently Amended) A method as claimed in claim 8, wherein the polygonal hollow section (PHS) is at least one of a rectangular hollow section (RHS) and a square hollow section (SHS), and

wherein, after forming the connection weld between the PHS and the member, the ~~spaced~~ second weld ~~bead~~ is applied, and then two or more intermediate weld beads are applied in succession between the ~~spaced~~ second weld bead and the connection weld, starting with the first intermediate weld bead adjacent to the ~~spaced~~ second weld ~~bead~~.

10. (Currently Amended) A method as claimed in claim 1 [[6]], wherein an additional weld bead is applied in a region defined between the member, the connection weld and the intermediate weld bead immediately adjacent to the connection weld.

11. (Currently Amended) A method as claimed in claim 10, wherein the tensile flange has a flange thickness and the additional weld bead has a thickness that is at least 0.5 times the flange thickness.

12. (Currently Amended) A method as claimed in claim 1 [[6]], wherein the connection weld is formed around a peripheral end of the polygonal hollow section (PHS) to fully connect the end to the member.

13. (Currently Amended) A method as claimed in claim 1 [[6]], wherein the second weld has a width ranging from 10 to 30 mm.

14. (Currently Amended) A method as claimed in claim 1 [[6]], wherein the tensile flange has a flange thickness and the one or more intermediate weld beads each have a thickness that is in the range of 0.3 to 0.6 times the adjacent flange thickness.

15. (Previously Presented) A method as claimed in claim 1, wherein the member is at least one of another polygonal hollow section (PHS), a supporting plate, a stiffening plate, a connecting plate, a base plate and a top plate.

16. (Currently Amended) A method as claimed in claim 1, wherein the polygonal hollow section (PHS) and the member define ~~the a~~ joint about which ~~the a~~ bending moment can be applied, as a result of a load applied to at least one of the PHS, the member, and both the PHS and the member.

17. (Currently Amended) A method for increasing the rotation capacity in a welded moment connection between a polygonal hollow section (PHS) and a member, the method comprising:

applying multiple weld beads transversely across a ~~surface~~ tensile flange of the PHS in a manner such that strain in at least one corner, located at an end of the PHS that is weld connected to the member, is redistributed to ~~a~~ the tensile flange that is adjacent to the at least one corner of the PHS.

18. (Currently Amended) A method for increasing the rotation capacity in a welded moment connection between a polygonal hollow section (PHS) and a member, the method comprising:

applying multiple weld beads transversely across a ~~surface~~ tensile flange of the PHS in a manner that minimises the extent to which a heat effected zone through [[a]] the flange of the PHS lies in a fracture zone adjacent to the weld.

19. (Previously Presented) A method as claimed in claim 1, wherein the polygonal hollow section (PHS) is formed from steel having reduced elongation at fracture when

compared to a corresponding hot-formed steel section.

20. (Previously Presented) A method as claimed in claim 19, wherein the steel is cold-formed and is susceptible to fracture in a heat affected zone adjacent to where the polygonal hollow section (PHS) is joined to the member.

21. (Currently Amended) A method as claimed in claim 1 [[6]], wherein the intermediate weld is formed by applying a first intermediate weld bead ~~is applied~~ to the tensile flange adjacent to the connection weld ~~bead~~ and applying each successive intermediate weld bead ~~is applied~~ adjacent a previous intermediate weld bead so as to extend the ~~second intermediate~~ weld continuously between the connection weld ~~bead~~ and a final intermediate weld bead, the final intermediate weld bead constituting the ~~spaced~~ second weld ~~bead~~.